



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,044	08/28/2003	Ikuya Yamashita	101175-00035	6945

4372 7590 08/09/2005

ARENT FOX PLLC
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER

RIDLEY, BASIA ANNA

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,044

Applicant(s)

YAMASHITA ET AL.

Examiner

Basia Ridley

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogino (JP 10-139401).

Regarding claim 1, Ogino discloses a hydrogen supply unit comprising:

- a reforming means (30);
- a first storage means (92) for storing and supplying hydrogen gas from said reforming means to at least a first fuel cell (100);
- a second storage means (55) for storing and supplying the hydrogen gas obtained by said reforming means to at least a second fuel cell (100);
- said second storage means (55) comprising a pressurization means (50) for pressurizing the hydrogen gas to be stored.

Regarding the recitation in claim 1 of intended use of said first and second fuel cells, it is noted that a recitation directed to the manner in which a claimed apparatus is intended to be used does not distinguish the claimed apparatus from the prior art.

Regarding claims 2-3 and 6, Ogino discloses all of the claim limitations as set forth above. Additionally the reference discloses the unit further comprises:

- a purifying means (40) for purifying hydrogen gas between said reforming device (30) and both storage means (55, 92);
- said first storage means (92) stores hydrogen by use of a hydrogen absorbing alloy ([0062]-

Art Unit: 1764

[0070]);

- a remaining amount detecting means (56) for hydrogen gas stored in said second storage means (55) and a control means (60).

Regarding limitations recited in claim 5 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states “Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.”

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino (JP 10-139401) in view of Fujitani et al. (USP 5,728,483).

Regarding claim 4, Ogino discloses all of the claim limitations as set forth above. Additionally the reference discloses that heat (from heater 95) is required for release of hydrogen from the hydrogen storage alloy, but the reference does not explicitly disclose that said heat is a waste heat of said reforming means or a waste heat of said first fuel cell.

Fujitani et al. teaches a high energy efficiency device wherein heat required for release of hydrogen from the hydrogen storage alloy is a waste heat of a fuel cell (Fig. 1 and C2/L30-C3/L64).

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the waste heat of the fuel cell as a source of heat needed to release hydrogen from the hydrogen storage alloy, as taught by Fujitani et al., in the device of Ogino, for the purpose of improving energy efficiency of the device by using heat that otherwise would be wasted.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

6. Applicant's arguments filed 27 June 2005 have been fully considered but they are not persuasive.

7. The applicant argues that Ogino does not disclose a first and a second fuel cell, but merely discloses a single fuel cell identified as 100. This is not found persuasive. While Ogino does in fact use only one reference number to identify disclosed fuel cells, the reference clearly discloses that more than one fuel cell is being employed in disclosed apparatus. See for example Fig. 4, 10, 12-13 and 15, where reference number 100 refers to "fuel cells" - the plural meaning that there are at least two fuel cells disclosed. Further specification refers to hydrogen generator and storage and supply means which provide hydrogen to electric vehicle having "fuel cells"

Art Unit: 1764

(e.g. C2/L38-43). Also the reference clearly states that reference number 100 shows "a stock of fuel cells" (e.g. C8/L67). Therefore reference clearly discloses at least first and second fuel cells, as set forth in the Office action.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

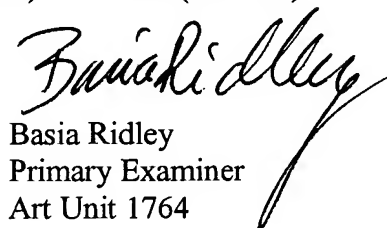
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1764

system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).


Basia Ridley
Primary Examiner
Art Unit 1764

BR

August 8, 2005